CLEAN AIR ACT SECTION 112(r) INSPECTION REPORT
ADM Milling Company
Buffalo, NY

GENERAL INFORMATION

Stationary Source	ADM Milling Company
Date of Inspection	December 9, 2008
USEPA Inspectors	Dwayne Harrington, USEPA – Region II (Edison, NJ)
Contract Auditor	Neil Mulvey, Sullivan Group (Subcontractor)
Description of Activities	• Opening meeting with facility representative. • Program audit. • Closing meeting with facility representatives. Program audit consisted of the following activities: 1. Document review. 2. Field verification. 3. Personnel interviews.

STATIONARY SOURCE INFORMATION

EPA Facility ID #	1000 0001 2041
Date of Latest Submission (used for RMP inspection)	Receipt Date: June 22, 2004 (Re-Submission) Anniversary Date: June 18, 2009
Facility Location	250 Ganson St. Buffalo, NY 14203 (716) 849-7333
Number of Employees	*RMP*Submit* states 96 employees. Facility management reported 82 employees. Union workforce.

Description of Surrounding Area	The facility is located on 14-acres in a heavy industrialized section of Buffalo. The facility is located just east of the Buffalo ship canal. Other industrial facilities are located to the north, east, and south. The nearest residential area is located approximately 1200-ft. to the east.
Participants	Participants included: Dwayne Harrington, USEPA – Region II, Edison, NJ Neil P. Mulvey, USEPA Contractor – Sullivan Group Gene Czyz, Shift Supervisor, ADM Milling Company[1] Pat Paluszynski, Operator, ADM Milling Company[2] George Siradas, Plant Manager, ADM Milling Company James Sheehan, Safety & Sanitation Supervisor, ADM Milling Company* * Lead representative for ADM Milling Company. 1. Participated for overview of chlorine process. 2. Participated during facility tour.

REGISTRATION INFORMATION

Process ID #	52079 (Chlorine for Bleaching)
Program Level (as reported in RMP)	Program 3
Process Chemicals	Chlorine @ 8,000-lbs.
NAICS Code	311211 – Flour Milling

GENERAL COMMENTS

ADM Milling Company operates as a flour mill, milling wheat to flour. The facility supplies flour to local distributors in bulk and smaller packages. The facility started operations in 1923. ADM purchased the facility in 1992.

Chlorine gas is used at the facility for two purposes: to bleach flour during the milling process and for water chlorination in a wheat tempering system. Chlorine also adjusts the pH of the flour, enhancing its baking performance. During the bleaching process the reaction of raw flour and chlorine is complete generating no by-products or waste products. Water chlorination is performed to reduce bacteria and spores naturally present in wheat to acceptable levels. Chlorine gas added to water in the chlorination process produces a hypochlorous acid solution which is applied to mechanically cleaned wheat kernels to "temper" the wheat.

The facility uses chlorine in 1-ton cylinders. A maximum of eight 1-ton cylinders are on-site at any time. Chlorine gas cylinders are received from Jones Chemical and transported to the chlorine room. The chlorine room contains two sets of four 1-ton cylinders hooked-up to the feed system. One set of four cylinders is actively feeding chlorine while the other set of four cylinders are connected, but not feeding (i.e., valves closed). A manifold system delivers chlorine gas to flour agitators located on the fifth and six floors of the mill and to the chlorination system located on the tenth floor (penthouse). Facility management reported that approximately four 1-ton chlorine cylinders are delivered every two months. Facility management reported that chlorine usage is approximately 75-lbs./hour. The flour mill generally operates 24/7, but was operating 24/5 at the time of this inspection.

Several chlorine detectors are located in the chlorine use areas to warn employees of a chlorine release. There are three chlorine detectors located in the chlorine room. One detector provides a digital read-out (located on a wall outside of the chlorine room) of the chlorine concentration inside the room. Another provides a continuous reading in the Shift Millers office and starts an emergency fan at 1 PPM. The third detector provides a visual warning at 1 PPM and audible warning at 3 PPM. Chlorine detectors on the fifth and sixth floors are also monitored at the Shift Miller's office and will close valves on the chlorine feed lines to those floors if chlorine is detected above setpoint. A chlorine detector on the tenth floor will also automatically closed valves in the chlorine feed system at concentrations above setpoint as well as start emergency fans (1 PPM). The chlorine monitors in the Shift Millers office provide a visual alarm, but no audible alarm. Likewise, the chlorine detectors on the fifth, sixth, and tenth floors are visual only. Facility management reported that audible alarms are not practical given the high degree of background noise.

The chlorine process is owned by an independent company, Caravan Ingredients. ADM leases the chlorine system from Caravan. ADM is responsible for receiving and transporting the 1-ton chlorine cylinders and for connections/disconnections of cylinders. Caravan Ingredients personnel performs regularly scheduled maintenance of the system.

ADM employees including Shift Supervisors and Sanitarians (hourly employees) have responsibility for daily operation of the chlorine system.

(*Subsequent to EPA's December 2008 RMP inspection, ADM provided additional documentation not available during the inspection, which was later reviewed by EPA. The original EPA RMP Inspection report was amended accordingly.)

RMP DOCUMENTATION

The facility maintains a "PSM Program Manual," (Rev. 5/07) which includes written descriptions of each PSM/RMP program element. The PSM Program Manual includes appendices with documentation to support implementation of the PSM/RMP procedure.

Comments regarding select RMP elements follow:

Management System [*40 CFR 68.15*] & Registration

The Plant Manager has overall responsibility for the site and for implementation of the RMP program. The Safety & Sanitation Supervisor has day-to-day responsibility for RMP implementation. Documentation includes a table with assigned responsibilities for each RMP element. Facility Management demonstrated a good understanding of the RMP requirements and the facility's program. RMP records were accessible and reasonably well organized.

Based on the facility's description that the maximum inventory of 1-ton chlorine cylinders on-site is eight (16,000-lbs.), the registration quantity of 8,000-lbs. is incorrect.

Hazard Assessment [*40 CFR 68.20-68.42*]

The nearest public receptor is approximately 0.1 miles from the facility. The facility used RMP Comp to determine the Worst Case and Alternative Case OCAs. The scenario descriptions and assumptions, parameters input to the models, distance to endpoints, and impacted residential population and environmental receptors were appropriate to the facility's operations and location.

Process Safety Information (PSI) [*40 CFR 68.65*]

The facility has a written description of PSI. PSI available for review included:

- MSDS
- Process chemistry
- Safe upper and lower operating limits
- Description of safety systems
- BFD
- P&ID
- Ventilation system design basis (chlorine room)

- Equipment manuals (for chlorinators and chlorine detectors)
- The Chlorine Institute – The Chlorine Manual
- The Chlorine Institute – Piping Systems for Dry Chlorine (Edition 13, April 1993)

PSI includes an assessment of how the existing system complies with recognized and generally accepted good engineering practices.

While the facility does have a P&ID, the P&ID symbols are not consistent with the legend. For example, the gas pressure reducing valves, solenoid valves, and ball valves are not correctly shown on the P&ID. Additionally, the drawing lacks detail normally included on P&IDs such as line sizing and material of construction, description of interlocks / automatic shutoffs, and manual valves.

Process Hazard Analysis (PHA) [*40 CFR 68.67*]

PHA documentation included record of three PHAs completed on:

- May 3, 2007
- August 14, 2002
- September 5, 2001

The 5/3/07 PHA was a revalidation completed using a checklist and HAZOP approach. The PHA checklist was provided by Caravan Ingredients. The PHA revalidation was completed by a six member team, including operators. The system was organized into nodes and the analysis included a review of causes, consequences, safeguards, and recommendations. There was no documentation available regarding the status of resolution of recommendations.

The 8/14/02 PHA was completed by a three person team and included checklists and HAZOP analysis. There was no documentation available regarding the status of resolution of recommendations.

The 9/5/01 PHA was completed by a team using a simple checklist.

Standard Operating Procedures (SOPs) [*40 CFR 68.69*]

Written SOPs were available for review included step-by-step instructions addressing the following operating phases:

- Start-up (initial)
- Start-up following emergency shutdown
- Start-up following repair
- Start-up (normal)
- Shutdown (normal)
- Shutdown (temporary)
- Shutdown (emergency)

- Removing empty chlorine cylinders
- Installing full chlorine cylinders
- Changing flexible connections
- Receiving full chlorine cylinders
- Emergency action plan for chlorine release

The last annual certification of the SOPs was completed on 3/1/07 and was conducted using a checklist reviewed by the facility's PSM Committee. There was no record of an annual certification in 2008.

Training [*40 CFR 68.71*]

The facility performs initial and annual refresher training for operators. Awareness training is provided to all facility personnel. Training includes a review of operating procedures and other safe work practices. Documentation includes a record of attendance, date of training, topics covered during training, and name of instructor.

Mechanical Integrity [*40 CFR 68.73*]

Maintenance including inspections and tests of the chlorine system are performed by an outside contractor, Caravan Ingredients. A "Mill Inspection Report" is completed for each inspection. Complete system reviews are completed five times each year. Records available for review included 2008, 2007, 2006, 2005, and earlier.

The chlorine delivery / manifold system is replaced every 10-years.

Chlorine detectors are tested every six months. Records were reviewed for tests conducted on 10/14/08 and 4/20/08. These tests include confirmation of audible and visual alarms, and verification of activation of emergency exhaust fans in the chlorine room.

Management of Change (MOC) [*40 CFR 68.75*] & Pre-Startup Review (PSR) [*40 CFR 68.77*]

The PSM Program Manual includes written procedures for MOC and PSR. The MOC procedure states that only Caravan Ingredients is authorized to make changes to the chlorine process. Documentation of the following MOCs was reviewed:

- 9/24/07 – Installation of a digital chlorine detector
- 3/15/07 – Installation of an automatic shutoff on a chlorine detector
- 10/25/06 – Installation of a chlorine header, valves, and other equipment
- 11/1/05 – Installation of a pneumatic shutoff valve on the temper system

Completed MOCs do not explicitly document the impact of the change on safety and health.

PSR reviews are completed via checklist and require authorization by the Safety Supervisor before start-up.

Compliance Audits [*40 CFR 68.79*]

The PSM Program Manual includes a written procedure for conducting RMP compliance audits. The two most recent compliance audits (10/4/07 and 11/10/04) were on file and available for review. Audit documentation includes completion of a detailed RMP checklist. Documentation also includes photographs of findings / observations made during the audit. A point system is used as a means to evaluate compliance. Documentation also includes reports on the status of resolving audit recommendations. There was no documentation however describing who led and who participated in the audits.

Incident Investigation [*40 CFR 68.81*]

The PSM Program Manual includes a written procedure for conducting incident investigations, including documentation of completed investigations using a detailed form. Facility management stated that there have been no chlorine releases requiring an investigation, so there were no completed reports on file for review.

Employee Participation [*40 CFR 68.83*]

The PSM Program Manual includes a written employee participation plan. The plan describes a "Process Safety Committee," including management and hourly employees (e.g. Plant Manager, Mill Supervisor, Safety Supervisor and operators) responsible for implementation of the employee participation plan. Documentation is available demonstrating employee participation in RMP and employee access to RMP information.

Hot Work Permit [*40 CFR 68.85*]

The PSM Program Manual includes a written hot work permit program. The facility also utilizes a "Chlorine Service Permit," which serves as an 'awareness' checklist of items that persons working on the chlorine system must be made aware of prior to initiating work. There were no completed hot work permits available for review.

Contractor Safety [*40 CFR 68.87*]

The PSM Program Manual includes written procedures for contractor safety. The contractor safety procedures include requirements for contractor selection, orientation, and awareness training. There is no procedure for performing periodic contractor evaluations. The procedure states that Caravan Ingredients is the only contractor approved for working on the chlorine system. The file on Caravan Ingredients includes their OSHA Form 300A (work related injuries and illnesses), but no documentation of contractor selection or periodic evaluations. Caravan Ingredients does perform work on or near the chlorine system at least once every 2-3 months.

Emergency Response [*40 CFR 68.90 – 68.95*]

The facility does not maintain an internal hazmat response team or fire brigade. The facility maintains an emergency action plan to evacuate the facility. The facility coordinates with Erie County Hazmat to respond to chlorine emergencies at the facility.

FACILITY TOUR

One item noted during the facility tour follows:

- The PVC chlorine line located in the stairwell leading up to penthouse (10th floor) is not properly secured. **The facility must secure this chlorine line, as well as all chlorine feed lines, in accordance with good engineering practices.**

FINDINGS/RECOMMENDATIONS

Registration [40 CFR 68.160(b)(7)]

- Based on the facility's description that the maximum inventory of 1-ton chlorine cylinders on-site is eight (16,000-lbs.), the registration quantity of 8,000-lbs. is incorrect. **As required by 40 CFR 68.160(b)(7), the facility should verify the maximum intended inventory for chlorine and update the RMP registration as necessary.**

Process Safety Information (PSI) [*40 CFR 68.65*]

- While the facility does have a P&ID, the P&ID symbols are not consistent with the legend. For example, the gas pressure reducing valves, solenoid valves, and ball valves are not correctly shown on the P&ID. Additionally, the drawing lacks detail normally included on P&IDs such as line sizing and material of construction, description of interlocks / automatic shutoffs, and manual valves. **As required by 40 CFR 68.65(d)(1)(ii), the facility must prepare an accurate and representative P&ID of the RMP regulated process.**

Process Hazard Analysis (PHA) [*40 CFR 68.67*]

- There was no documentation available regarding the status of recommendations identified during the 5/3/07 and 8/14/02 PHAs. **The facility must establish a system and ensure timely resolution of PHA recommendations identified during the 5/3/07 and 8/14/02 PHA studies, as required by 40 CFR 68.67(e).**

Standard Operating Procedures (SOPs) [*40 CFR 68.69*]

- The last annual certification of the SOPs was completed on 3/1/07. There was no record of an annual certification in 2008. **The facility must ensure that operating procedures are certified annually, as required by 40 CFR 68.69(c).**

Management of Change (MOC) [*40 CFR 68.75*]

- MOC documentation from 2005, 2006, and 2007 were reviewed. Completed MOCs do not explicitly document whether a review of the safety and health implications of the change is included in the MOC. **The facility must ensure that MOC reviews include documentation of the impact of the change on safety and health, as required by 40 CFR 68.75(b)(2).**

Compliance Audits [*40 CFR 68.79*]

- The two most recent compliance audits (10/4/07 and 11/10/04) were on file and available for review. There was no documentation however describing who led and who participated in the audits. **The facility must ensure that documentation of completed RMP compliance audits includes identification of the leader and all participants so that it can be confirmed that the audit was conducted by at least one person knowledgeable in the process, as required by 40 CFR 68.79(b).**

Contractor Safety [*40 CFR 68.87*]

- The contractor procedure does not include a procedure for performing periodic contractor evaluations. There was no documentation available for review of contractor selection or periodic evaluations related to maintenance work on the chlorine system performed by Caravan Ingredients. **The facility must document its review of the contractor's safety performance and confirm selection, as required by 40 CFR 68.87(b)(1) and perform periodic evaluations of the contractors' work on-site, as required by 40 CFR 68.87(b)(5) .**